



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/660,620	09/12/2003	Eisaku Murakami	242441US3	6127

22850 7590 12/22/2004

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

CHEN, SOPHIA S

ART UNIT PAPER NUMBER

2852

DATE MAILED: 12/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/660,620

Applicant(s)

MURAKAMI ET AL.

Examiner

Sophia S. Chen

Art Unit

2852

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 19 and 20 is/are rejected.
- 7) ☒ Claim(s) 18 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 September 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 12/12/03 5/14/04 7/8/04 7/16/04 7/30/04 8/16/04 8/26/04 9/12/04 9/17/04 10/13/04 11/9/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____

DETAILED ACTION

Drawings

1. Figure 17 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 13Y, 13C, 13M, 14Y, 14C, 14M (Figure 1), 60 (Figure 9), 367a (Figure 13), and 416A (Figure 14). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "plurality of the toner containers" (Claim 19) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

4. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

5. Claims 13 and 17 are objected to because of the following informalities:
- a. Claim 13, line 2, "the introduction hole" should be "an induction hole" because it is the first time to use this terminology.
 - b. Claim 17, line 3, "from the hole" should be "from a hole" because it is the first time to use this terminology.

Appropriate correction is required.

Claim Rejections – 35 U.S.C. §102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

~~(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.~~

7. Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Sato (JP 2002-169439 A).

Sato discloses an image forming apparatus, comprising: a frame body 60; a frame cover 61 supported by the frame body 60 so as to be capable of opening and closing (Figure 4); an image forming unit 11, 12, 13Y that forms a toner image with toner on an image carrier 10 (paragraph [0009] and Figure 1); a cleaning unit 20 that removes and collects toner residing on the image carrier 10 (paragraph [0009] and Figure 1); a toner container 40 for accumulating the toner collected by the cleaning unit 20, wherein the toner container 40 is supported by the frame cover 61 (abstract and Figure 4); the toner container 40 is formed integrally with the frame cover 60 (Figure 4); and the toner container 40 is detachably held by the frame cover 61 (paragraph [0012]).

8. Claims 6, 7, 16, 17, 19, and 20 are rejected under 35 U.S.C. 102(e) as being anticipated by Sameshima et al. (US Pat. No. 6,493,528 B2)

The patent discloses a waste toner recovery device, comprising a toner container 16, detachably attached to an image forming apparatus A, for collecting waste toner produced in the image formation process by the image forming apparatus A; the toner container 16 including a conveying unit 35 for moving the waste toner inside the toner container 16 (column 10, lines 23-28), wherein the toner container 16 has a shape that fits in a space inside the image forming apparatus A (column 9, lines 15-20 and Figures 8 and 9); and the toner container 16 has a surface that faces toward a member (a cleaning unit 29 or an intermediate transfer belt 5a) of the image forming apparatus A

and the surface is formed in a shape corresponding to a shape of the member 29 or 5a (Figure 9).

The patent further discloses the conveying unit including a conveyor 35 and a drive unit that drives the conveyor 35 (column 10, lines 25-28); the conveyor 35 conveys the waste toner, coming in the toner container 16 from a hole 34, away from the hole 34 (column 10, lines 23-25 and Figure 9); a plurality of the toner containers 29 and 16; and the conveyor 35 is a screw conveyor (column 10, lines 25-28).

Claim Rejections – 35 U.S.C. §103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Iizuka (JP 07-261620 A).

Sato, as discussed above, differs from the instant claimed invention in not disclosing the toner container has such a structure that the toner in the toner container is visible from outside of the toner container.

Iizuka discloses an image forming apparatus comprising frame body 2; a frame cover 3; a toner container 7 for accumulating the waste toner (abstract); and the toner container 7 has such a structure that the toner in the toner container 7 is visible from outside of the toner container 7 (via a window 4; abstract).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to the window as taught by Iizuka to the front cover of Sato so that a copying operation is prevented from being inadvertently executed without setting the toner container and the scattering of the discharge toner into a machine body is avoided (Iizuka; abstract).

12. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sato in view of Kimura et al. (JP 11-003015 A).

Sato discloses an image forming apparatus, comprising: a frame body 60; a frame cover 61 supported by the frame body 60 so as to be capable of opening and closing (Figure 4); an image forming unit (charger) 11, (exposure) 12, (developing unit) 13Y that forms a toner image with toner on an image carrier 10 (paragraph [0009] and Figure 1); a cleaning unit 20 that removes and collects toner residing on the image carrier 10 (paragraph [0009] and Figure 1); and a toner container 40 for accumulating

the toner collected by the cleaning unit 20 wherein the toner container 40 is supported by the frame cover 61 (abstract and Figure 4).

Sato differs from the instant claimed invention in not disclosing a process cartridge, and at least one unit selected from the image forming unit and the cleaning unit is integrally formed with the image carrier.

Kimura et al. discloses an image forming apparatus comprising a process cartridge 400 having an image carrier 10, a charger 11, developing units 14, and a cleaning unit 18 (Figure 2); and a waste toner container 31.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the process cartridge as taught by Kimura et al. to the image carrier, the image forming unit, and the cleaning unit of Sato to easily replace parts.

13. Claims 8-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sameshima et al. in view Honobe et al. (JP 2002-148884 A).

Sameshima et al., as discussed above, further discloses a hole 34 at a highest position of the toner container 16, when the toner container 16 is fit into the image forming apparatus A, wherein the hole 34 communicates with the cleaning device 29 so that the waste toner collected by the cleaning device 29 accumulates into the toner container 16 via the hole 34 (Figures 9 and 10); and the hole 34 is formed on the side surface of the toner container 16 (Figure 9).

Sameshima et al. differs from the instant claimed invention in not disclosing a plurality of cleaning units that are aligned in a direction and slantingly with respect to the

image forming apparatus; the surface is parallel to the cleaning units; and the toner container has a hole corresponding to each of the cleaning unit.

Honobe et al. discloses an image forming apparatus 1 comprising a plurality of drum cleaners 14; an intermediate transfer belt 20; an intermediate transfer belt cleaner 23 arranged at the end (nearby roller 22) that opposite to the transfer roller 30 (Figure 1); a waste toner container 50; a plurality of holes 53 (Figure 3); and one of surfaces of the container 50 has substantially the same direction as that of the cleaners 14 and 23 (Figures 1 and 2).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the intermediate transfer belt cleaner of Honobe et al. to the intermediate transfer belt of Sameshima et al. to clean and collect the residual toner remaining on the intermediate transfer belt.

Since the intermediate transfer belt cleaner of Honobe et al. is added to the intermediate transfer belt 5a of Sameshima et al. at the position nearby roller 41 (the end that opposite to a transfer roller 11; Figure 9), it would have been obvious to one of ordinary skill in the art that the one of surface of the container 16 (Sameshima et al.) is slanted in a same direction (and parallel to) as that of the cleaning units (29 and the new added belt cleaner).

14. Claims 6-13, 15-17, 19, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okawa et al. (JP 11-095519 A) in view of Shimotoso et al. (JP 2001-296712 A) and Sameshima et al.

Okawa et al. discloses an image forming apparatus 1 comprising a plurality of image bearing members 222a through 222d; a cleaning device including a plurality of cleaning units (including toner containers) 226a through 226d being arranged at regular intervals (paragraph [0028] and Figure 1); a belt 216 being slantingly arranged (Figure 1); and the cleaning units 226a through 226d being slanted in a same direction as that of the belt 216 (Figure 1).

Okawa et al. differs from the instant claimed invention in not disclosing a waste toner container including a conveying unit; a hole at a highest position of the toner container; holes are formed at regular intervals; and the hole communicates with the cleaning device via a conveying path, and the hole is wider than the conveying path.

Shimotoso et al. discloses an image forming apparatus comprising a plurality of image bearing members 7a (Figures 1 and 2); a cleaning unit including a plurality of cleaning units 7c being arranged at regular intervals (Figures 1 and 2); a belt 2; and the cleaning units 7c being arranged in a same direction as that of the belt 2 (Figure 1).

Shimotoso et al. further discloses a waste toner container 12 having such a shape to fit into a free space of the image forming apparatus (Figures 1 and 4); one of the surfaces of the container 12 is opposed to a surface of a member (the plurality of cleaning units 7c or the belt 2) of the image forming apparatus (Figure 1); the container 12 comprising one or more holes 12a through 12d which are connected with the cleaning units 12a through 12d via at least one conveying path (screw) 7d (Figure 4); the holes 12a through 12d are arranged at regular intervals (Figures 4 and 5); the holes 12a through 12d are arranged on the top surface of the toner container 12 (Figures 4

Art Unit: 2852

and 5); and the holes 12a through 12d are wider than the conveying path (screw) 7d (Figure 4).

Sameshima et al. discloses a waste toner container 16 comprising a waste toner conveyor (screw) 35 (Figure 9); a driving device configured to drive the conveyor (screw) 35 (column 10, lines 25-28); and the conveyor (screw) 35 is configured to transport the waste toner in such a direction that the waste toner is distance from a hole 34 (column 10, lines 23-25).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the waste toner container (with openings) and its location as taught by Shimotoso et al. to the cleaning unit of Okawa et al. to easily remove the waste toner contained in the toner container (remove at once instead of the traditional way that requires to remove the waste toner from each cleaning unit individually).

By combining Okawa et al. and Shimotoso et al., it would have been obvious that the container is slanted in a same direction and parallel to that of the cleaning units (or belt), one hole (associated with the cleaning unit 226d of Okawa et al.) is located at a highest position of the toner container, and the hole is arranged on the slanted surface (top surface) of the container.

Also, it would have been obvious to one of ordinary skill in the art at the time the invention was made to apply the toner conveying unit as taught by Sameshima et al. to the toner container of Okawa et al. in view of Shimotoso et al. to flatten the waste toner accumulated in the container in order to store waste toner evenly (Sameshima et al.; column 10, lines 23-25).

Allowable Subject Matter

15. Claim 18 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Other Prior Art

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Haneda et al. (US Pat. No. 5,065,195) discloses an image forming apparatus comprising a frame body; a frame cover; and a waste toner container is supported by the frame cover.

Matsuo et al. (US Pat. No. 5,146,270) discloses an image forming apparatus comprising a waste toner container having such a shape that fits in a space inside the image forming apparatus.

Nemura et al. (JP 07-261617 A) discloses an image forming apparatus comprising a frame body; a frame cover; and a waste toner container is supported by the frame cover.

Tokimatsu et al. (JP 08-328366 A) discloses an image forming apparatus comprising a waste toner container having such a shape that fits in a space inside the image-forming apparatus.

Shimotoso et al. (JP 2002-006574 A) discloses an image forming apparatus comprising a waste toner container having such a shape that fits in a space inside the image forming apparatus.

Konishi (JP 2002-108159 A) discloses an image forming apparatus comprising a frame body; a frame cover; and a waste toner container is supported by the frame cover.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sophia S. Chen whose telephone number is (571) 272-2133. The examiner can normally be reached on M-F (7:00-3:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Arthur Grimley can be reached on (571) 272-2136. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Sophia S. Chen
Primary Examiner
Art Unit 2852